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[Beck (Sir) Adam] (1857-1925)

RE

"SUTHERLAND COMMISSION" MAJORITY REPORT



STATEMENT

RESPECTING

Findings and Other Statements

CONTAINED IN

Majority Report of the Commission

(KNOWN AS THE "SUTHERLAND COMMISSION")

APPOINTED

TO INQUIRE INTO THE SUBJECT OF

Hydro-Electric Railways

TORONTO—1922

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FOREWORD

Although the Report of the Commission appointed to enquire into Hydro-Electric Railways - known as the "Sutherland Commission" - was issued in brief to the Public Press in August, 1921, it was not until December, 1921, that the Report was printed in full and made available to the Public. At that time there was much pressure of work incident to the opening of the Chippawa plant and in connection with other public matters, and, therefore, detailed consideration of the "Sutherland Report" was not possible. Moreover, it would not have been advisable to make any statement respecting the Report of the Sutherland Commission before printed copies were available to the Public.

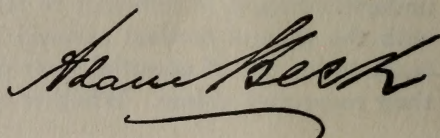
The Hydro Radial Municipalities have desired that a formal statement be published expressing the opinion entertained by those interested in Hydro-Radials towards the Findings of the "Sutherland Report." It has been the intention to set forth this opinion at the earliest appropriate date and action in this respect is now taken in the STATEMENT herewith presented.

After the Reader has perused the various statements herein submitted there will be little need to explain why comments have been confined to the Majority Report of the Sutherland Commission as signed by the Commissioners, Mr. Justice R. F. Sutherland, General C. H. Mitchell, Mr. W. A. Amos and Mr. A. F. McCallum, and have not been made to cover also the Minority Report of Mr. Commissioner F. Bancroft. In order, however, to avoid any misunderstanding, it is sufficient to state that there is no controversy with the general method pursued by Mr. Bancroft either with respect to his use of essential facts or his intelligent appraisement of their respective values. Whether right or wrong in his conclusions,

Mr. Bancroft's presentation is entitled to fullest respect. The extent to which the Majority Report has failed to merit similar consideration may safely be left to the decision of the Reader. I have dealt with the Majority Report because I, for one, regard it as permeated by misunderstanding or by the misinterpretation of evidence and by the omission of essential data, to an extent which nullifies its usefulness as a judicial document and as a criterion by which either to approve or to condemn the Hydro-Radial Project under consideration.

The Statement here presented has, for one of its objects, the clarification of the outlook of the Public of the Province of Ontario upon Hydro-Radials,—an outlook which has been befogged by the controversy which has centred in the operations of the Sutherland Commission. Wide publicity was given in the Public Press to the adverse character of the Majority Report of the Commission. Having before it an analysis and appraisal of Findings and statements of the Sutherland Majority Report, it is anticipated that the Public Press will aid that portion of the Public which has been unsettled by this Majority Report to regain its confidence in the general Hydro-Radial project as submitted by the Hydro-Electric Power Commission of Ontario acting on behalf of Provincial Municipalities.

The Experts of the Hydro-Electric Power Commission still believe that the proposed Hydro-Radial System may successfully be carried forward along the lines originally recommended, and there has been nothing disclosed either by the Sutherland Commission or through any other source, which has in any degree lessened their confidence in the radial project recommended,—a project which can scarcely fail to be of very great social, commercial and financial benefit not only to the Municipalities directly concerned, but also to the Province and indeed to the Dominion as a whole.

A handwritten signature in dark ink, reading "Adam Beck". The signature is written in a cursive style with a long, sweeping underline that extends to the right.

Toronto, 10th. February, 1922

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RESPECTING
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Hydro-Electric Railways

At the present time it would be difficult to say just what the expression "Hydro-Electric Radial Railways" stands for in the mind of the general public of the Province of Ontario. When the Hydro-Electric Power Commission, acting on behalf and at the request of various municipalities, undertook an investigation looking towards the installation of high grade, rapid suburban and interurban electric railway facilities, the Public, no doubt, formed the view that something was about to be done to equip portions of Ontario with rapid suburban and interurban transportation. The Commission, as a result of its research, had concluded that for certain sections of the Province, this improved transportation could be provided upon a sound economic basis and this fact was brought to the attention of the people of the Province.

Subsequently, the Provincial Government, as is well known, appointed a Radial Railway Commission—now generally referred to as the "Sutherland Commission"—to inquire into the credibility of the representations which had been made by the Hydro-Electric Power Commission. How this Radial Railway Commission proceeded and what has been the general tenor of its report is now common knowledge.

**Sutherland Com-
mission Report
Befogs Issue**

The net result of the controversy which has clustered around the operations of the provincial Radial Railway Commission has been to unsettle the public mind and leave it in doubt, *first*, as to whether the radial lines proposed by the Hydro-Electric Power Commission could be constructed and operated so as to be self-sustaining, and *second*, as to whether this end could be attained without producing a duplication of railway lines which would be injurious to the country as a whole. A tremendous amount of evidence, covering over thirteen thousand pages of typewritten transcript and involving a great quantity of plans, statistical and other information, was submitted to the Sutherland Commission. Obviously, it is quite out of the question for the general public to make any detailed study of the evidence in order to determine the merits or demerits of the Hydro-Radial proposition. As a matter of fact, the findings of the majority of the Commissioners of the radial enquiry show that even these gentlemen were apparently unable rightly to weigh the great assemblage of material which they brought together, or rightly to interpret its import.

In this Statement it is proposed to show the unfounded nature of important conclusions reached by the Sutherland Commission, and also to restate the premises upon which the Hydro-Electric Power Commission has represented that the radial project which it has recommended may be carried out to the general advantage of the people of the Province.

It is not the intention here to impose upon the public extensive statistical information or any great array of detailed facts, but rather to direct earnest attention to the real issues at stake and to show that, after all, the recommendations of the Hydro-Electric Power Commission have not justly been discounted by the Findings of the Radial Railway Commission, or by any assertions made by others. Time, no doubt, will disclose the unsound character of the hostile criticism directed against the recommendations made by the Hydro-Electric Power Commission with respect to radial railways. If, however, the project is a sound and desirable one, it will be inadvisable to delay its practical initiation.

It is stated above that the public mind at the present time has become befogged with regard to the Radial Railway project. It therefore seems desirable to review briefly the situation to date with regard to the much-discussed Hydro-Radials.

**Municipalities
Regard Radials as
a Necessity**

For the last ten years the municipalities have recognized the fact that the problem of providing adequate transportation facilities between adjacent large centres, and, in conjunction therewith, of meeting the needs

of smaller towns and densely populated rural districts for communication with these large centres, was not being satisfactorily solved. That there is a positive need for improved facilities for the interchange of commodities is evidenced by the fact that here in Ontario farm produce is frequently allowed to decay on the farm while the urban populations are paying high prices for similar goods. The prosperity of both city and country depends upon the unhampered interchange of commodities, and both farmer and city dweller should have rapid and frequent access to each others' domains. Steam railroads have made inadequate attempts to meet the need, but their lines and equipment, being primarily designed for long-distance traffic, are not only inherently unable to give satisfactory inter-urban and suburban service, but the attempts made have for the most part resulted in financial loss to the railroads themselves.

Within recent years motor trucks and automobiles have partially solved the difficulty for short distances, but, for distances such as are met with in interurban traffic, the high rates charged by trucking companies, and the financial failure of many such companies have shown that they are economically impracticable, even though subsidized as they are, in effect, by the tremendous costs of construction and maintenance of highways suitable for the heavy traffic, which costs impose a heavy burden upon the shoulders of the taxpayers.

**Radials the
Only Solution
of Problem**

As a result of such factors, the conviction has gradually grown up in the minds both of the public and of experts, that for interurban and suburban traffic the only system of transportation which will supply acceptable service, and at the same time be economically sound, is a high-speed, frequent-service, electric radial system. This conviction has given rise in the last ten years to an insistent demand for a system of municipally-owned radials in Ontario.

The fact that over 600 resolutions have been passed calling for preliminary surveys on over 3,000 miles of line surely indicates that Ontario municipalities at least believe they need additional transportation facilities,—facilities indeed which have been enjoyed for many years by most of the corresponding districts in the United States.

The success which has attended the operations of the Hydro-Electric Power Commission in the organization of municipal supply of hydro-electric power naturally suggested the advisability of combining the two enterprises under one management. In this connection it may be pointed out that although the Radial Rail-

ways would create a useful additional load for the Hydro-power systems, there are other economical advantages of greater importance which would result from the Hydro-radials and Hydro-power being under one management, or at least closely associated. Economies would be effected by the joint use of rights of way, transmission lines and substations, of storehouses, of line gangs and maintenance department, of operators and to some extent of administration staff. Also the extension of radial railways through certain communities to which hydro power is not at present available would make it economically practicable to extend the advantages of electricity to the inhabitants of these communities.

Radials a Provincial, Not Merely a Local, Problem Complying with the demands of the municipalities, the Provincial Legislature, in 1914, gave its sanction to the Commission to investigate such Hydro-radial projects as were thought to be of value from the standpoint of the welfare of the Province as a whole. It is true that the more populous portions of the Province afford the best field for the successful initiation of radial railways and for this reason their installation would naturally be commenced where the best operating and other essential conditions exist.

The Hydro-Electric Power Commission, when initiating its power programme, about fifteen years ago, was confronted with the criticism that it was launching a scheme which was for the special benefit of Toronto, and was not, as it was represented to be, a provincial proposition. It is true that in the case of power, the initial operations were confined to the districts which offered the greatest facilities for commencing the work, but as soon as possible the operations were extended until the Commission today operates eleven distinct systems and supplies under contract 350 municipalities including many rural communities. In other words what was charged to be a local project, has been demonstrated to be—as it was represented to be—a province-wide project. As circumstances warranted similar procedure might be looked for with respect to the extension of Radial Railways.

The Hydro-Electric Power Commission has had to consider the proposed installation of electric railways in various parts of the Province, and as a matter of fact has made preliminary examinations—some of which of necessity were only of a reconnaissance nature—of over 3,000 miles of suggested routes. Obviously, most of such propositions had immediately to be discarded because they lacked economic possibilities.

For example, the people of Huron county petitioned for a

radial system and the Commission reported upon a possible system of 120 miles, but as it was soon evident that there was no possibility of making such a line pay, it was so reported. Even though suggestion was made that the people interested might become responsible for any deficit, the Hydro-Electric Power Commission could not depart from the principle it had laid down to the effect that no line would be recommended nor undertaken unless it could be made self-supporting. Other similar instances might be cited.

That the municipalities which have had the opportunity of passing upon the Hydro-Electric Power Commission's recommendations in connection with hydro-radials have been convinced that the solutions suggested by the Commissions were the most advantageous possible for their particular conditions, is evidenced by the very large number of municipalities that voted favourably for Hydro-radials and also provided for the necessary guarantees.

**Hydro Commission
Submits Radial
Project** After several years of study and after careful weighing of the various factors involved, the Commission formulated an initial Hydro-Radial programme on behalf of provincial municipalities with about three hundred and twenty-five miles of railways to be equipped so as to be serviceable for rapid transit. Out of these 325 miles, about 200 miles of road had actually been constructed, the right of way was thus existent, and in fact these roads, with the exception of the Toronto Eastern, are in actual operation, so really all that was required was the constructing of about 125 miles of new road and the bringing of about 200 miles of existent road up to the required standards.

THE PROPOSED LINES

This 325 miles comprised 5 sections of road.

- First: *The Toronto-St. Catharines Division*, extending from Toronto, through Oakville, Hamilton, Grimsby and Beamsville, to St. Catharines, a distance of about 73 miles—about 9 miles of which already exist. Leaving the terminal in Toronto this line will be ultimately grade-separated within the city limits and can therefore be operated as a high-speed line direct to the terminal.
- Second: *The Toronto-Eastern Division*, extending from Toronto through Whitby and Oshawa to Bowmanville, also grade-separated through Toronto. Its total length is 44 miles, of which 19 miles are partially completed.

Third: *The Toronto-Suburban Division*, extending from the junction with the Toronto-St. Catherines Line at Swansea, to Guelph. It also includes another line running from Keele and Dundas Streets, in Toronto, to Woodbridge, together with local street car lines in the outskirts of Toronto making a total of 68 miles of line. The present Guelph Division of the Toronto-Suburban Railway and the old Belt Line right-of-way will be used. Only 3 miles of new construction would be required.

Fourth : *The Hamilton-Elmira Division*, extending from Hamilton, through Galt and Kitchener, to Elmira, with a branch from Galt, through Preston and Hespeler, to Guelph, operating a total of 82 miles of line. In this System the Guelph Street Railway, now operated by the Commission, and 39 miles of the present G. T. R. track will be used.

Fifth : *The Niagara-Central Division*, consisting of the existing interurban and local lines of the Niagara-St. Catherines and Toronto Railway, which connect St. Catherines with Port Dalhousie, Niagara-on-the-Lake, Niagara Falls and Port Colborne, and on which the Commission has an option from the Dominion Government. The total length of this division is 62 miles, all now in existence.

**Radials to be
Strictly High Class**

The Radial Railways are to be constructed according to the best modern standards and no reasonable expense is to be spared in order to insure that the equipment and its operation will be such as to secure the necessary returns from passengers and freight. Indeed, in its Report, the Sutherland Commission definitely and emphatically recognizes the high class character of the proposed Hydro-Radials but fails in its arguments to accord to this fact the weight to which it is entitled. The Hydro-Electric Power Commission was well aware that the road it was recommending was not of an inferior character. If it were an inferior road it had better not be constructed, because rapidity of transit absolutely demands a certain high standard of construction and equipment, otherwise speed cannot be maintained. If the road be cheapened so that the rapid speed is unobtainable, the result is an inability to secure an adequate traffic. Once radial railway transportation falls into the category of the ordinary city street railway transportation, it fails to attract the traffic absolutely vital to its existence.

**Municipalities and
Government
Prepare to
Co-operate**

The Municipalities were desirous of obtaining the benefits of Hydro-radials and accordingly availed themselves of the legislative means provided for the attainment of this end. The Municipalities submitted to their respective electors the necessary by-laws and complied with all financial and other requirements. Moreover, the various provincial governments had expressed willingness—under the “Hydro-Radial Railway Act”—to guarantee the bonds of the municipalities. As a consequence, the municipalities naturally felt justified in proceeding upon this basis.

Now, inasmuch as the investigations of the Hydro-Electric Power Commission’s experts had demonstrated the probable success of its Hydro-radial proposals and as the municipalities were ready to finance the proposition and the government—so far as was then known—was not unsympathetic with the efforts being made and was willing to strengthen the hands of the municipalities by guaranteeing their bonds, it seemed as though every requirement preliminary to the actual construction of some of the roads had been complied with.

**New Government
Appoints Com-
mission of Enquiry**

With the change of provincial administration there came representations that the Government desired to proceed with caution and to be fully assured of its position with respect to the radial railway proposals. In order to gain the knowledge it desired, the Government appointed the Radial Railway Commission, under the chairmanship of Mr. Justice Sutherland. The Hydro-Electric Power Commission submitted information, statistical and otherwise, gathered in connection with its extensive electric railway research.

**Hydro Commission
Defends its
Radial Proposals**

The Sutherland Commission, however, desiring to make enquiry covering more fully certain aspects of the subject not found necessary to be considered in great detail by the Hydro-Electric Power Commission’s experts, requested supplementary information, which entailed prolonged and detailed study on the part of the Hydro Commission staff. It will readily be understood, of course, that the Hydro-Electric Power Commission was placed in an awkward position. It had to submit the results of years of study and special research before a tribunal none of the members of which had had practical experience in the operation of electric railways, or had been responsible for making such railways an economic success.

Besides this, the Hydro-Electric Power Commission, as a result of extensive experience gained in meeting the efforts of hostile

criticism directed against its hydro-power operations, recognized that it was necessary to defend its position respecting radial railways, because the Commission recognizes that a certain class of misrepresentation, if allowed to go unchallenged, often gives birth to other forms of assault which sooner or later must strenuously be resisted. This is especially necessary because of the effects produced upon the minds of those who are apt to be unduly influenced by so-called authority, for, to some persons 'authority' is truth, rather than Truth authority.

As the representative of the municipalities, the Hydro-Electric Power Commission has simply pursued the course which would be adopted by any sane individual whose interests were being unjustly attacked in a manner which might seriously injure them. It would never have done for the Hydro-Electric Power Commission to have failed to vindicate portions of its data which were the object of special—and we believe, unjust—attack before the Sutherland Commission. The Municipalities would certainly not have wished to see their Commission discredited without making effort to establish the soundness of its position.

It may here be emphasized that procedure by means of a special commission, sitting as judges for the purpose of investigating the economic feasibility of a project involving so many complex technical considerations as does the proposed Hydro-Radial system, is, as a matter of fact, a cumbersome, inefficient and expensive method of arriving at a conclusion in such a matter. This is particularly the case where the members of such a commission lack the class of knowledge and experience in railroad matters which is essential. This phase of the subject under discussion is referred to simply to avoid any misunderstanding respecting what has really entailed the large expenditures incurred by the Sutherland Commission enquiry and because, in disregard of the real facts of the case, some have charged that a large part of this expenditure was due to lack of data available from the Hydro-Electric Power Commission in support of their recommendations. Even a cursory review of the evidence, however, will demonstrate that such a charge cannot be supported by the facts.

Although the majority of the Radial Railway Commissioners has in general terms—and this phrase is used advisedly—attempted to discount important data of the Hydro-Electric Power Commission's experts, nevertheless, the Radial Railway Commission, by an actual dealing with the data submitted has been unable to show that the data or conclusions of the Hydro-Electric Power Commission are incorrect or out of accord with facts at hand. It is not con-

tended that there are no data which are open to debate or to difference in view respecting the weight which should be assigned them, but the statement is made holding in mind the broad provincial radial scheme advanced by the Commission and the credibility of the data submitted by the Hydro-Electric Power Commission's experts in support of the project.

As stated before, it is unnecessary to impose upon the public statistics, or a recitation of the contentions which have clustered around issues which the Radial Commissioners have raised in connection with various data. It may, however, be profitable to illustrate, by specific instances, upon what ground the assertion is made that the Sutherland Commission has failed justly to discredit the estimates or conclusions of the Hydro-Electric Power Commission's experts.

THE SUTHERLAND COMMISSION'S CHARGE OF DUPLICATION

Certain criticisms of the Majority Report of the Radial Railway Commission may be introduced by drawing attention to the incorrectness of one of the general conclusions, expressed in Finding No. 3 as follows:

"We are further of opinion that the construction of the proposed electric railways paralleling and competing as they would with the Canadian National Railway System, would be unwise and economically unsound, and would strike a serious blow at the success of Government Ownership."

Radials Not Necessarily Duplications

Now what are the actual facts? In the first place railway lines may be close to one another without duplication. It is the character of service rendered rather than juxtaposition of lines which determines whether or not there be duplication. The Toronto Street Railway may run parallel to the Canadian National Railway and to the Hydro-Radials but no one would contend that the street railway line was a duplication of either the steam or the radial lines. The character of business undertaken by electric radials is essentially different from that chiefly handled by the steam railways.

By way of further illustration, attention may be drawn to the International Railway Company operating between Buffalo and Niagara Falls. This Company, although operating a rapid inter-urban service between the terminal cities, nevertheless more recently constructed a second very costly, double-track line between the same

terminals and substantially paralleling its original line. The original line is now used in connection with the more local passenger traffic and freight while the new line handles chiefly the longer haul, through passenger traffic. It would be puerile to contend that these lines were either duplications or competitors. They are, as a matter of fact, complementary; each looking after its own special class of business and each a contributor to the general development of the whole district.

**Hydro-Radials
Do Not
Duplicate**

Consider, for example, the *Niagara Central* and the *Toronto Suburban* lines. These are owned by the Canadian National Railways—with which it is charged the Hydro-Electric Power Commission's radials would unfavorably compete. The Dominion Government not only expressed its willingness to be relieved of these lines, but offered to turn them over to form part of the new radial system and in addition expressed a willingness to interchange traffic with the Hydro-Radial system, just as in the case of other railways.

With respect to the *Hamilton-Guelph-Elmira Division*: Anyone familiar with the Galt-Guelph-Kitchener District, embracing a population of 100,000 people, knows that when the people of this district desire to trade or communicate by railway with the 150,000 or more people in the Hamilton district, a distance of 30 or 35 miles via Harrisburg or Guelph Junction must be traversed. The Hydro-Electric Power Commission plans to give a direct, cross-country route of only 25 miles. This surely is a desirable undertaking in which no duplication would be involved.

With regard to the *Toronto-St. Catharines Division*, it may be pointed out that although the territory in question is one of the most populous districts of Ontario it is served by practically only the Grand Trunk Railway. The Canadian Pacific Railway has running rights between Toronto and Hamilton but is prevented by agreement from stopping at local points. When examined by the Sutherland Commission, officials of the Grand Trunk Railway, while admitting the desirability of rendering a better suburban service for this territory, nevertheless indicated that this involved seeking a class of local business to which they did not desire to cater.

Again, with regard to the *Toronto Eastern Division*: even though this line would run adjacent to existing steam roads, nevertheless the character of business would be radically different. The Dominion Government itself proposed to complete this line but was ready to be relieved of this work, and the administration not only offered to turn this line over to the Hydro-Electric Power Commission as part of its

radial system, but held up its programme of construction pending the fuller consummation of the Commission's arrangements.

**Dominion
Governmental
Co-operation**

Furthermore, the Dominion Government railways administration was prepared to enter into an interchange agreement whereby the Hydro-Radial System utilizing the Niagara Central, Toronto-St. Catharines, and Toronto Eastern divisions, would be permitted to secure as far as Bowmanville, the long haul on wheat, cement and other bulk freight originating in the Niagara Central district.

In view of such facts, it is simply absurd for the Sutherland Commission to represent that the proposed radial railways would be "paralleling and competing with" and would "strike a serious blow at the success of" the Canadian National Railway System. Looked at in a broad way, the success of the Canadian National Railways is bound up with the general development and growth of the territory they traverse. Upon this development and growth the proposed Radial Railways would, in the portion of the country they serve, unquestionably exercise a most beneficial influence.

**SUTHERLAND COMMISSION WOULD IMPOSE UNFAIR
STIPULATION RESPECTING CHIPPAWA PLANT**

In its Finding No. 4 the Sutherland Commission states:

"We are further of opinion that until the Chippawa Power scheme, now estimated to cost \$60,000,000 or upwards is completed, and has been in operation for sufficient length of time to be self-supporting, the Province would not be justified in endorsing for the construction of an electric railway system at an initial estimated cost of \$45,000,000."

The Hydro-Electric Power Commission aims to have its available power used in the most profitable manner. Anticipating the increasing demand for power by radial railways, the Commission naturally assumed that these railways would absorb a portion of Niagara power. It had not occurred to the Commission, however, that its Chippawa plant must first be demonstrated as "self-supporting" before Hydro-radials could be constructed. Viewed from certain standpoints, the success of power development and the success of railway operation are two distinct propositions. This fact evidently is appreciated by the Government of Ontario, because in a statement issued on the 6th July, 1920, in justification of its decision to appoint a special Commission to report upon Hydro-radials, it said:

"Hydro radial projects, while they may to some degree facilitate the distribution of power as incidental to the operation of the railways, are entirely new and separate from the main object and scheme of the Commission, and with the enormous amounts involved in their construction must be considered on their merits and to a large extent independently and separately from the Hydro-Electric power project."

FINDING NO. I OF MAJORITY REPORT

Finding No. 1 of the Sutherland Commission states:

"The financial condition of electric railways in Ontario and the United States in and prior to 1920, has been so precarious and unsatisfactory, and the outlook for improvement so dubious and discouraging, that the construction of the proposed system of electric railways should not, in our judgment, be entered upon unless the evidence of competent operating experts fully justifies the conclusion that they will be self-supporting."

Have then such "competent operating experts" been called upon to pass a competent judgment? Despite anything to the contrary, it is maintained that the experts upon the Hydro-Electric Power Commission's staff and in addition the electric railway expert Mr. Bion J. Arnold and his staff, are better qualified to give evidence upon the matter at issue than are any or all of the other experts called before the Sutherland Commission. The reasons for taking this stand are as follows:

The extensive investigation made by the Hydro-Electric Power Commission's staff respecting the hydro-radial system it recommends has already been referred to. Mr. Bion J. Arnold, the expert engaged to make a report for the Municipalities, is himself the owner and operator of an interurban electric railway and is recognized as one of the most eminent experts in this field. His standing is accredited by the Sutherland Commission report. Mr. Arnold and his staff spent about ten months in making an independent investigation of the Hydro-Electric Power Commission's Radial proposition and he prepared an extensive and detailed report which was supplemented by many days of oral testimony before the Sutherland Commission. Allowing for certain minor differences of view and for the recommendation of the immediate, instead of the deferred, construction of an uptown terminal in Toronto, Mr. Arnold's report and evidence supports the conclusion of the Hydro-Electric Power Commission that its proposed hydro-radial system would be self-supporting. Thus in a word, Mr. Arnold has stated:

"The entire electric transportation system and the character and scope of the service which it proposed to furnish, are all conceived along broad lines. While the system as a whole cannot be compared with any existing interurban system, combining as it does rapid transit, suburban and interurban passenger features, with dispatch and carload freight traffic, yet each of these classes of service has its parallel in existing systems, and when an analysis of the estimated operating results of these various classes of service has been made, they lead to the conclusion that the project herein outlined as a whole is feasible and that if constructed and operated under competent management with the support of the communities served, its success can be reasonably expected."

Now, since the findings of the Sutherland Commission do not accord with the evidence of the Hydro experts and of Mr. Arnold, the Sutherland Commission of necessity must base its findings upon the testimony of the other experts who appeared at its Hearings. It will readily be understood that to give an opinion of value respecting any hydro-radial project it would be necessary to have an intimate practical knowledge of the characteristics of *electric* interurban railway operation, as distinct from steam railways. Furthermore, without an understanding of the territory, the basic facts and the exceptional features of the particular project involved, no expert would be a qualified witness. How do the experts upon whom the Sutherland Commission relies, qualify in these respects?

**Steam Railway
Experience Not
a Criterion**

First of all, there are the three steam-railroad experts Messrs. W. F. Tye, Geo. C. Martin and F. P. Gutelius. The last mentioned was for some time Vice-President of a steam railroad which controls some electric railway subsidiaries. He was, however, not an operator of electric roads. The experience and outlook of Messrs. Tye, Martin and Gutelius are essentially from the standpoint of steam railroads, and are not applicable to the conditions governing in the case of the Hydro-Radial's. The underlying conditions are radically different. This point may be illustrated: Mr. Tye, who undoubtedly has had considerable experience in steam railway work, was asked respecting the possible number of trains per day that might operate over a certain class of electric railways:

Question: And your idea is that 13 passenger trains each way, of five cars each, and three freight trains each day, rising perhaps to five, would reach the capacity of this line?

Answer: Yes, exactly, of an electric road that does that, that has not a double track.

When, upon this point, Mr. Tye was confronted with the fact of an actual operation each way of 34 trains per day on a single track electric railway—the London and Port Stanley—he replied, “That would do away with my evidence to a great extent: that is all I have to say: I don’t know anything about it at all.”

The evidence of Mr. Gutelius may also be cited in further illustration of the danger of relying, in matters peculiar to electric railway operation, upon the testimony of an expert whose viewpoint is that of steam road operation.

With reference to the estimated passenger revenue of the Toronto Eastern Division out of the Town of Oshawa, Mr. Gutelius was examined as follows:

Question: I have the passenger earnings of the Toronto Eastern out of Oshawa at \$242,000?

Answer: That is in the column: “Oshawa, 19 trips, 85 cents, \$242,000.”

Question: On Page 19 of Exhibit 47 it is shown as \$242,000 passenger earnings out of Oshawa?

Answer: Yes.

Question: What do you say about that, if anything?

Answer: Just while you have that before you, what was the population of Oshawa that year estimated at?

Question: 15,700?

Answer: Now, assuming 15,000 people and they make 19 trips a day, every morning there would be leaving Oshawa for Toronto, according to that estimate, roughly, 400 people. 400 people lined up would cover two blocks. That estimate is alright except that is just about ten times too much.

The “19 trips a day” appearing in the evidence of Mr. Gutelius as above quoted, is obviously meant to be “19 trips a year” which is of course the basis of the estimates under consideration, and moreover the 19 trips a year corresponds to an average of 800 passengers per day which is the 400 passengers in each direction as mentioned by Mr. Gutelius. Mr. Gutelius, therefore states that: “Every morning there would be leaving Oshawa for Toronto, according to that estimate, roughly 400 people,” and he couples with this his further statement that “400 people lined up would cover two blocks.” This can convey only one possible meaning, namely, that the entire average traffic for one day is expected by Mr. Gutelius to occur *at one time* and thus cause the passengers to line up for “two blocks.” The

absurdity of this assumption is at once apparent to anyone familiar with electric inter-urban railway operation where the outstanding characteristic is frequency of service. Mr. Gutelius' outlook in this particular case is the more inexcusable because there was in evidence, as Exhibit 75, a train sheet of the Toronto Eastern Line showing 10 trips per day in each direction between Oshawa and Toronto. The 400 rides per day in each direction includes of course every class of passenger traffic—commuters, commercial, school children, shoppers, theatre traffic, etc., thus yielding a fairly well distributed traffic throughout the day. The most charitable view to take of Mr. Gutelius' failure to comprehend the situation is that his steam railroad training and the viewpoint associated with it so controlled his outlook that he could only think in terms of steam railroad branch line conditions where the operation of but a single train per day in each direction is not uncommon.

A comment may just be added upon the statement of Mr. Gutelius that the passenger traffic on the Toronto Eastern division for the Town of Oshawa is "just about ten times too much." It will be noticed that the earnings at Oshawa are based on 19 rides per year per capita of Oshawa's population to and from Toronto,—a distance of 35 miles. If this, as Mr. Gutelius states, is "just about ten times too much," then the traffic to be expected would not exceed two rides per capita. The absurdity of such a contention is demonstrated by an examination of the riding habit of other places on interurban lines similarly situated with respect to a main terminal like Toronto. A few of such places are cited as follows:

Between	Miles	Rides per Capita to and from Main Terminal.	
Indianapolis and Martinsville.....	30	.....	19
" " Greencastle.....	39	.....	23
" " Rushville.....	41	.....	15
Detroit and Ann Arbor.....	39	.....	18
" " Ypsilanti.....	30	.....	30
" " Northville.....	27	.....	30
" " Pontiac.....	25	.....	28
" " Monroe.....	35	.....	14
Toronto and Aurora.....	22	.....	38
" " Newmarket.....	26	.....	33
" " Sutton.....	52	.....	12

This table speaks for itself and shows that the estimate of Mr. Gutelius is *just about one tenth of what it should be.*

In view of testimony of the character of that just reviewed, it will be perceived that while steam road experts like Messrs. Tye and Gutelius doubtless meant well in drawing upon and applying as they did their steam road experience, yet such knowledge is of very little value in connection with operations appertaining to a scheme like the Hydro-radials. It will be seen, therefore, that there is ample justification for disregarding the testimony of steam road experts because of their lack of knowledge of the radical and essential differences in the characteristics of steam and of electric interurban railway operation. We may therefore set aside the testimony of the steam railway experts.

Messrs. C. E. Bailey and L. A. Herdt had had experience which to some extent had brought them into contact with electric railways, nevertheless a reference to their testimony will show that they cannot properly be classed as operating experts within the meaning of the term as emphasized by the Sutherland Commission. Similarly, Mr. R. B. Rifenberick, who was retained by the Sutherland Commission as its chief consulting expert was also without operating experience.

With the exception of some Canadian officials who were called to testify chiefly respecting conditions existent on certain local steam and electric lines, the only other men called by the Sutherland Commission or by Mr. Robertson, the anti-radial counsel, who may really be regarded as electric railway operators, are Messrs. F. W. Coen, R. M. Feustel and Robert I. Todd.

**Electric Railway
Experts Unfamiliar
with Hydro Proposals
and Territory**

Although the testimony of Messrs. Coen, Feustel and Todd would, no doubt, be of value if they were testifying respecting radial railway matters of which they had first-hand and sufficient knowledge, nevertheless their testimony upon the Ontario Hydro-radial project is entitled to practically no weight because of the almost total ignorance of these men with regard to the specific Hydro-radials under discussion.

Attention may be directed to a few citations from the evidence of the Sutherland Commission's experts, in order to show that these experts were assuredly not familiar with the local conditions, nor with the unique features in interurban railway operations which appertain to the Hydro-radial proposition, and hence these men could not really be qualified witnesses. The reader may contrast for himself the value of testimony of such uninformed, electric railway

operating experts and that offered by Mr. Bion J. Arnold and the staff of the Hydro-Electric Power Commission, based as it is upon their definite and extensive study of the actual proposition under discussion.

Mr. Coen, for example, was asked respecting his knowledge of the Hydro-Electric Power Commission's radial project.

Question: Then have you at all looked over the situation of these proposed railways?

Answer: Very little: I have not even yet got a map that shows the distance and population.

Question: You have not studied that?

Answer: I have not had it yet; I started to make one of my own.

Mr. Todd, when on the witness stand, similarly was asked:

Question: What amount of consideration have you given to the proposed roads that are under consideration here?

Answer: Only a very general consideration.

Question: Just what does that amount to?

Answer: Riding over the territory.

Question: Have you been over them all?

Answer: With one or two small exceptions. My examination has been the most general, simply to look over the territory and see what it looked to me in the way of prospective earnings and general business conditions, and population, as compared with other situations I am familiar with. I was not brought into the details and you will save a lot of time if you will cut out the details.

and *Mr. Feustel* at the Hearings was also asked:

Question: Have you familiarized yourself at all with the geography and location of the population of these lines?

Answer: Only in a very modest way; in fact, I just saw the prospectus and that for, I should say, not over half to three-quarters of an hour.

Now, in view of such very limited and superficial knowledge of the actual Hydro-radial project possessed by Messrs. Coen, Todd and Feustel—the limitations of the experience of Mr. Gutelius have already been referred to—how can the Sutherland Commission possibly be justified in stating in its report that

“In the final analysis, however, it seems to us that greatest reliance must be placed upon the evidence of actual operating experts of standing and experience. We regard the following as particularly to be regarded as in this class:—Gutelius, Feustel and Todd. We would also estimate Arnold and Herdt as high class experts. The evidence of all of these, with the exception

of Arnold, leads to the inevitable conclusion that the construction of the proposed system of electric railways cannot be recommended, owing to the following reasons:—high construction costs, too low estimate of operating costs, and too high an estimate of revenues.”

REFUTATION OF SUTHERLAND COMMISSION'S SPECIFIC REASONS WHY HYDRO-RADIALS CANNOT BE RECOMMENDED

From the above quotation it will be seen that the three specific reasons why the proposed Hydro-Radials cannot, in the opinion of the Sutherland Commission, be recommended are:

- High construction costs
- Too low estimate of operating costs
- Too high an estimate of revenues.

Attention will therefore be directed to some of the statements made by the Sutherland Commission and the methods it adopted in dealing with the very important facts of *Capital Costs*, *Operating Costs* and *Revenues*. In dealing with these we also really deal with the Sutherland Commission's reasons for the Finding No. 2 which states:

“Upon full consideration of the evidence, and the proper weight to be given to the witnesses, we are of opinion that the proposed electric railways would not be self-supporting.”

CAPITAL COSTS

First then, with respect to *Capital Cost*: In giving ‘high construction costs’ as a reason why the Hydro-radial system is condemned, the Sutherland Commission failed to point out that the general unsatisfactory financial conditions of many interurban railways is due to the fact that the construction and equipment of these railways is not of a sufficiently high standard. Neither did the Sutherland Commission emphasize the fact that the most notable exceptions to the railways which are in trouble are the very railways whose construction and equipment are of the highest class. Some railways have recognized that the way to free themselves from hampering conditions is to provide equipment and service of the highest standard because these alone will secure the traffic and enable it to be handled economically. A striking instance of this is found in the case of the Chicago, North Shore and Milwaukee Railway, an interurban road extending from Chicago to Milwaukee, which is very costly in construction and equipment. It is capitalized at \$175, 000 per mile and has a replacement value of \$271, 000 per

mile. Of this road the Sutherland Commission says in its Majority Report: "This road presents about the best example of the highest class suburban and interurban electric railway in the United States." In 1920 according to its Annual Report this railway had above operating expenses, depreciation, taxes, and all fixed charges, a surplus of \$433,000. Resultant upon improved terminal entrance in Chicago, the passenger revenue between 1919 and 1920 increased 32 per cent; and in the first business year after the line was extended to Milwaukee, the increase was 52 per cent. The road spent about \$4,000,000 in reconstruction and improved equipment and for each dollar of this expenditure the road received in return almost \$1.00 per annum in increased revenue.

**Only Highest
Type of Service
Commands
Business**

In his testimony before the Sutherland Commission, Mr. C.E. Thompson, Assistant to the President of the Chicago, North Shore and Milwaukee Railway

was asked:

"Could you not get as much revenue with not so expensive a road-bed and with less of this type of accommodation you speak of?"

Mr. Thompson replied:

"We do not think it is possible to get the best results with inferior service or inferior construction.....only the best and highest type of service will attract business to our line."

Mr. Thompson stated further:

"We are thoroughly convinced that the success of the property.....depends entirely upon the character of the service.....we consider it of vital importance to have the best road bed, the cleanest and most comfortable cars that can be provided and the best station and terminal facilities that it is possible for us to obtain."

This further example may just be given. In the case of the International Railway between Buffalo and Niagara Falls, the Company, in order to develop a special class of through passenger traffic, recently paralleled its existing double track interurban line between these cities with a new double track High Speed line on a private right-of-way at a cost of \$225,000 per mile.

Although some portions of the proposed Hydro-Radial system would naturally cost more than others, yet the average cost of the lines as given in the Majority Report is about \$140,000 per route mile and this includes the costly, high speed city entrances.

If high class and costly interurban railways like the Chicago, North Shore and Milwaukee and the International Railway are

successfully operated, why was this fact not emphasized by the Sutherland Commission?

When the operating expert Mr. Todd was asked before the Commission:

"Did you know of any interurban road in the United States or interurban system now operating that costs \$200,000 a mile or anything like that figure?"

Mr. Todd replied:

"No, I do not know of any."

One can overlook Mr. Todd's lack of knowledge upon this important subject, but the majority of the Sutherland Commission should explain why it failed to acquaint the public with the significance of these facts which were within its knowledge, and to which the reader's attention is specifically directed.

OPERATING COST

The second reason, 'Too low an estimate of operating cost,' given by the Sutherland Commission why the proposed Hydro-Radials could not be recommended, may next be considered.

Both Mr. Arnold and the Hydro-Electric Power Commission submitted specific figures of operating cost based upon an extensive research having in mind the specific and special features of the proposed Hydro-Radial scheme. The Sutherland Commission, however, did not subject these figures to analysis, nor was testimony sought upon their credibility. The Sutherland Commission chose rather to deal in generalities and confined itself to an investigation of operating cost based chiefly upon comparisons between various operating ratios and operating costs per car mile for the proposed Hydro-Radial system and existing radial lines in the United States and Canada. Inasmuch as the methods pursued by the Sutherland Commission with regard to the operating ratio and the operating cost per car mile are similar, the former only will be referred to here.

Operating Ratios

The *Operating Ratio*, as is generally known, is the proportion which the total operating expense bears to the gross revenue. This may be illustrated by taking an example of two railways each having the same amount of gross revenue. In one case there is an operating ratio of 60 per cent. that is to say 60 per cent. of the gross receipts goes to meet operating expenses, leaving the 40 per cent. for taxes, interest and other capital charges and surplus or profit. In the other case, the rail-

way has an operating ratio of 70 per cent., leaving only 30 per cent. of its gross revenue to meet the other charges. Obviously, if other factors are comparable, then the lower the operating ratio the better should be the financial status of the railway. In other words, if the proposed Hydro-Radials possess, as has been represented, an operating ratio of 55.7 per cent. they are, other things being equal, in a much better position to meet other charges than radials with a ratio of, say, from 65 per cent. to 70 per cent. Before leaving this direct reference to the significance of the operating ratio, it may be stated that while operating ratios are convenient unit figures for some purposes, yet, they can only intelligently be applied by those who are familiar with the underlying facts from which, in any particular instance, they have been derived. For instance, those who value buildings often apply unit figures to the cubic contents of structures, and in this way derive approximate estimates of value. It would, however, be folly for a person, learning that such unit figures of, say, cost per cubic foot were available and, happening to secure some such unit costs, to apply to a building like a City Hall a unit figure which only appertained to galvanized iron garages.

Now the Sutherland Commission in its Majority Report states:

“The Hydro Radials proposed operating ratio for the entire system is 55.7%.”

And again:

“The expectation of such an operating ratio would seem to be contrary to experience, and impossible of attainment.”

And again:

“There is no reason to expect that this road will be operated more cheaply than the average of existing roads whose experience is actually available and not speculative.”

Evidently, the Sutherland Commission wished it understood that the estimated operating ratio of 55.7 per cent. of the Hydro-Radial system is not only too low but is not supported in actual experience.

**Table of Majority
Report Operating
Ratios**

In support of its contention the Sutherland Commission supplies in its report the following table:

OPERATING RATIOS ELECTRIC RAILWAYS IN CANADA AND UNITED STATES

(Excluding taxes)

CANADIAN ROADS		Per Cent.
1919	Hamilton (Radial) to Brantford....	62.7 Coleman.
1920	London & Port Stanley (without Park).....	68.8 Richards.
1919	Niagara, St. Catharines & Toronto..	74.7 Friend.
1920	Lake Erie & Northern.....	75.5 Kirkwood.
1920	Grand River.....	78.9 Kirkwood.
AMERICAN ROADS		
1920	Terre Haute-Indianapolis.....	60.0 Rifenberick.
1920	Detroit-Toledo.....	65.2 Rodger.
1920	Lake Shore Electric.....	70.4 Rifenberick.
1919	Union Traction.....	72.0 Feustel.
1920	Washington-Baltimore.....	73.3 Price-Waterhouse.
1920	Chicago North Shore.....	76.8 Thompson.
1920	Detroit-Rapid.....	76.9 Rifenberick.
1920	Detroit-Jackson.....	78.3 Rodger.
1919	Indiana Service Corporation.....	79.0 Feustel.
1920	Buffalo-Niagara Falls (High Speed).	79.3 Chavel.

The Sutherland Commission thus cites fifteen radial railways in the United States and Canada with their operating ratios and adds:

“From the foregoing table of roads already described and discussed herein it is obvious that the Hydro Radial expectations of Operating Ratio are entirely out of line with existing roads in practical experience.”

**Important
Operating Ratios
Not Cited**

It will be noted that in the case of eleven out of the fifteen roads cited, the operating ratios shown are for the year 1920 and four are for the year 1919. *There was omitted from the table the Texas Electric Railway which, according to evidence before the Sutherland Commission had an operating ratio for the year ending Sept. 30th, 1920, of 50.9 per cent.* Also, while there was included the operating ratio of the Detroit, Monroe and Toledo of 65.2 per cent. in 1920, the Sutherland Commission omitted any mention of the fact that, as given in evidence, *the operating ratio for this road in 1919 was only 54.19 per cent.* The Sutherland Commission apparently sought as far as possible, to substantiate its contention on comparisons of operating ratios existent under the extreme, peak price conditions of 1920. Where 1920 data were not available a few similar cases were cited from 1919 conditions.

Operating ratios, *per se*, cannot satisfactorily be used to compare the performances of different railways. The Sutherland Commission failed to take cognizance adequately of the influences of rates of pay, costs of power, rates of fare, schedule speeds, rentals, and other items varying radically for different railways. Moreover, even if operating ratios, by themselves, could be used fairly to compare the performance of different railways, it would still be regarded as totally unjustifiable that the Hydro-Electric Power Commission's estimates of operating cost should be unfavorably criticized by the Sutherland Commission because the derived operating ratio of the Hydro-Radials is lower than certain operating ratios selected by the Sutherland Commission which appertained only to the two years 1919 and 1920—years which are acknowledged to be ones of extreme peak costs for labor and material without anything like corresponding increases of revenue. If the comparison had been made with operating ratios for periods during which more like normal conditions obtained, then the comparison would have demonstrated the conservative character of the operating ratio of 55.7 per cent. derived from the Hydro-Commission's estimates. This will clearly be perceived from the following table showing operating ratios of various interurban electric lines within recent years.

OPERATING RATIOS OF VARIOUS INTERURBAN ELECTRIC RAILWAYS
FOR RECENT YEARS.

	Year	Operating Ratio
Washington, Baltimore & Annapolis.....	1914	54.03
	1915	55.52
	1916	54.07
	1917	47.35
Waterloo, Cedar Falls & Northern.....	1914	46.49
	1915	46.49
	1916	49.89
Detroit, Monroe & Toledo.....	1914	56.4
	1915	52.2
	1916	55.2
	1917	57.2
	1918	54.1
	1919	54.19

RADIAL RAILWAY COMMISSION

OPERATING RATIOS OF VARIOUS INTERURBAN ELECTRIC RAILWAYS FOR RECENT YEARS. (Continued)

	Year	Operating Ratio
Kansas City, Clay County & St. Joseph.....	1914	50.2
	1915	52.2
	1916	48.0
	1917	53.5
Cleveland, Painesville & Eastern.....	1914	49.82
	1915	47.08
	1916	50.54
Milwaukee Northern.....	1914	47.59
	1915	49.23
	1916	48.80
	1917	48.17
	1918	55.47

NOTE: A number of operating ratios for the later years not specified in this table are purposely omitted. Some of these ratios would accord with the higher ratios given in the table of the Majority Report. The point here at issue, however, is not the recording of complete returns of operating ratios but the showing that for high-class roads numerous operating ratios existed which were substantially lower than those for the extreme peak years of high cost used by the Majority Report in its attempt to discredit the ratio of 55.7.

**Operating Ratios
Favourable to 55.7**

The foregoing table shows that there were many cases of operating ratios in the years just preceding the extreme peak price years of 1919 and 1920, that were *lower* than the Hydro operating ratio of 55.7 and very much lower than the operating ratios in the table presented by the Sutherland Commission.

As a rule, low operating ratios are the result of highly efficient management of first-class roads having such features as first-class equipment, high schedule speed and density of traffic. The plain truth in connection with this matter of operating ratios is, that the special and high-class character of the Hydro-Electric Power Commission's radial project and its possession of all the features just mentioned are *the* factors which would enable it to operate so as to possess the operating ratio which has been claimed for it, nor can this ratio be discredited by citing against it operating ratios derived from other radials under conditions which absolutely nullify the comparisons.

REVENUES

We come now to the subject of revenues. The anticipated revenues of the proposed Hydro-Radial System are estimated under the three general heads of Passenger, Freight, and Miscellaneous.

Freight Revenue. The estimates of freight revenue submitted by the Hydro experts are based on careful surveys made in the territory involved in order to ascertain as far as practicable the actual tonnage moving, due consideration being given to the character, origin and destination of shipments as well as to the proportion of the freight, in each case, that the Hydro-Radials might expect to secure. It would be an intricate matter to follow the various comments which during the course of the inquiry were made respecting the different classifications of freight, the amounts originating at different places, the influence of quick delivery on volume and so on. This, there is no need to attempt. The criticism which will be offered with regard to the methods pursued by the Sutherland Commission respecting passenger revenue is applicable also to the treatment accorded the estimates for freight revenue.

Miscellaneous Revenue is a relatively small and unimportant item. It is derived from light package and express business, station and car privileges, mail and other incidental sources.

Passenger Revenue is divided into three different classes, namely—Local, Suburban and Interurban.

Local Revenue from Hydro-Radials is derived from local street railway operations in such places as St. Catharines, Guelph, and other centres on the Hydro-Radial system having street railway systems.

Suburban Revenue is derived from the operation of suburban rapid transit service in districts such as surround Toronto and other large centres. Consequent upon the high speed entrance in Toronto, revenue from this service is a special and unique feature of the Hydro-Radial system, and is a source of revenue not available in similar proportion to any existent interurban railways in Canada or the United States.

Interurban Revenue is derived from the usual service between the various terminals, towns and rural communities served by the Hydro-Radials.

Now, the estimates submitted for Miscellaneous Revenue and Local Passenger Revenue were not subjected to analysis or criticism in the Sutherland Report and therefore may be regarded as having been tacitly accepted. Also the statement in the Report respecting estimates of Suburban Passenger Revenue indicates that these were regarded by the Sutherland Commission as not inconsistent with the revenues of existing suburban roads serving Toronto and other comparable centres. It is proposed then to deal specifically with the controversial item of the *Interurban Passenger Revenue*.

INTERURBAN PASSENGER REVENUES

The Engineers of the staff of the Hydro-Electric Power Commission were, first of all, thoroughly familiar with local conditions. They also visited important interurban centres such as Detroit, Cleveland, Buffalo, Indianapolis and Boston, and interviewed executive and operating officials of interurban railways. Elaborate and authoritative detailed data respecting population, traffic, revenues, expenses and so on, of a great many lines were secured.

Suitable Comparisons with Existing Radial System

After these data were assembled and analyzed, it was obvious that there was already in existence a group of interurban roads which, in geographical features, population and general characteristics of the territory served, bears a remarkable similarity to the proposed Hydro-Radial system.

NOTE FOR THE READER

At this place the reader is earnestly requested to open the Map placed at the end of this Statement. This Map is a photographic reproduction of Exhibit 220, in evidence before the Sutherland Commission. By devoting a little study to the map in order to identify the various railways specifically referred to in the few pages which follow, and also by referring to the Map as references to these various railways occur in the text, the reader will ensure for himself a clear understanding of the subject under discussion.

This group, for convenience of reference, has been referred to as the DETROIT-CLEVELAND SYSTEM. It consists of the lines of the Northern Ohio Traction System, extending south from Cleveland through Akron and Canton to Urichsville with various branches; the Lake Shore Electric Railway, extending westward from Cleveland to Toledo; and four divisions of the Detroit United Railway System, including the Detroit, Monroe and Toledo division which extends from Toledo to Detroit. An inspection of the accompanying map—it is Exhibit No. 220—will show the striking features of similarity between the Detroit-Cleveland System and the proposed Hydro-Radial System. It will be noticed, for example, that each System serves territory strikingly similar, geographically. In the one case it is the westerly border of Lake Erie, and in the other case the westerly border of Lake Ontario. If account be taken of the proposed through passenger service between Toronto and Buffalo via the Hydro-Radials and the new High Speed line of the International Railway Company, so that for passenger traffic purposes the Hydro-Radial and the International Company's lines may be considered as in combination, then the Detroit-Cleveland System connects the two large terminal cities of Detroit and Cleveland, while

the Hydro-Radials connect Toronto and Buffalo. Each system has a relatively large intermediate centre of similar type, Toledo and Hamilton. Each system has radiating and feeder lines, and each has considerable steam railway competition, more severe, however, on the Detroit-Cleveland system. Each system has water competition, also more severe on the Detroit-Cleveland System. Each system serves about the same proportion of rural to total population, and each system serves a number of important smaller cities and towns through its branch lines.

In seeking, therefore, for an existing interurban system whose revenues might fairly be used as a criterion with which to compare the estimated revenues for the proposed Hydro-Radial System, it would be difficult to conceive of one answering the requirements more closely than does this DETROIT-CLEVELAND SYSTEM.

**Data Used with
Discrimination by
Hydro Experts**

The Hydro-Electric Power Commission's experts personally visited the Detroit-Cleveland territory and secured from the officials of the companies complete and accurate data of operation, for the year 1920, of all the lines included in the system. Official census data of 1920 population was also obtained and estimates of population served by the lines within the accepted zone 2-1/2 miles wide on each side of the railway, were made. Where it was necessary to take cognizance of special features affecting comparisons, this was done. In fact the Hydro Commission's Engineers were more careful in this respect than were others in making comparisons. In this connection there should be made clear an important difference between Hydro-Radial and Detroit-Cleveland revenues, namely: that the lines of the Detroit-Cleveland System terminate both physically and for revenue purposes outside of the cities of Detroit and Cleveland. The interurban cars of the Northern Ohio Traction Company enter Cleveland over the tracks of the Cleveland Street Railway, and interurban fares are collected only as far as the City Line. A separate City fare is collected from all passengers for the portion of their trip within the City of Cleveland and this fare goes to the Cleveland Street Railway. Consequently, the Northern Ohio Traction Company only derives revenue from mileage outside of the main terminal. In like manner, the passengers of the Lake Shore Electric Railway pay a separate fare to the Cleveland Street Railway, but in this case the fare extends beyond the City Line through the suburbs of Lakewood and Rocky River. Similarly, a separate City fare is collected in Detroit on all the interurban divisions of the Detroit United Railway, and this fare goes to the City lines in Detroit and is not accredited to the interurban revenues.

**Hydro-Radials
Obtain Terminal
Revenues**

Now this is not the situation with respect to the revenues of the Hydro-Radials, because, owning their own independent terminal, *they are credited in the estimates with the total revenues right into the centre of Toronto as well as those accruing on the suburban mileage between Sunnyside and Long Branch.* It was necessary, therefore, in bringing estimates to a comparable basis, to delete these special revenues from the Hydro estimates. This was done so that the Hydro-Radial estimates would be submitted in evidence to the Sutherland Commission on a basis properly comparable with the actual revenues of the Detroit-Cleveland System.

**Importance of
Exhibits 220 and 221
Largely Ignored**

The comparisons effected, were submitted in a table entitled:

Hydro Radial Railways
Comparisons Justifying Various Estimates
Submitted to Radial Railway Commission

The Hydro-Electric Power Commission placed this table, showing as it does the comparisons between the Hydro-Radial System and the Detroit-Cleveland combination both as a whole and between various divisions or sections of each system, in evidence—as *Exhibit 221*—together with the map—as *Exhibit 220*—to which reference has been made. Copies of these exhibits will be found at the end of this Statement. The accuracy of these data is not questioned, and, without doubt, they constitute a remarkable justification of the Hydro-Radial estimates.

As we now proceed to deal more specifically with the Sutherland Commission's treatment of the subject of passenger revenue, it will be seen how this very important item of evidence was largely disregarded by Mr. Justice R. F. Sutherland, General C. H. Mitchell, Mr. W. A. Amos and Mr. A. F. McCallum, who signed the Majority Report of the Commission.

Probably no other feature of the Majority Report more fully discloses the inconsistent, inaccurate and inadequate character of the reasons given by the Sutherland Commission in support of its conclusions than the manner in which this subject of passenger revenues is dealt with.

MAJORITY REPORT SHOWN TO BE IN ERROR
RESPECTING POPULATION CENSUS

In dealing with passenger revenues, the Sutherland Commission prefaces its comments with a discussion of the population of the region, with particular reference to the increases estimated by the Hydro-Radial experts between the year 1920 and the future

dates of 1925, 1930 and 1935. The Commission clearly recognizes the basic relationship between passenger revenues and population in its statement that,

"The passenger revenue expected in the Hydro-Radial project is based primarily upon population and secondarily on the expectation that this population will ride to an extent and in such a proportion called the "riding habit," so that a certain revenue will accrue to the new electric railways"

Having thus declared the fundamental relationship between population and passenger revenue, the Sutherland Commission casts a very serious reflection upon the accuracy of the underlying population data upon which the Hydro-Commission and Mr. Arnold estimated the tributary population of the Hydro-Radials. On this point the following is quoted from the Majority Report:

Among these predictions of future population Mr. Arnold gives the following expectations for the five years, 1920 to 1925, the present populations being merely local (assessment) estimates, and not the actual census figures, such as are now being made in the census of 1921. It is to be observed in this connection that local population estimates are usually in excess of the actual Dominion census returns, so that there is some danger of high estimates having been used for the present (1920) populations, and if so, the expected per cent. increase would in reality be more than Mr. Arnold shows, and hence more extravagant."

The statement that "local (assessment) population estimates are usually in excess of the actual Dominion census returns" is so completely contrary to the facts that it seems incomprehensible that the Sutherland Commission could have made such a statement. Even at the present time (early 1922) the results of the census enumeration of 1921 are only partially available in the form of Press Bulletins giving the result of preliminary counts issued "subject to correction." Hence any pertinent comparisons made by the Sutherland Commission to warrant such a statement could not have been based upon data more recent than the Census of 1911.

A tabulation has been made of the population of all Hydro-Radial municipalities as given by the Dominion Census returns and by the "local (assessment)" returns as published by the Bureau of Municipal Affairs. The tabulation covers, for the year 1911, all cities, towns, villages and rural municipalities that are included in the population estimates for the Hydro-Radial System. The following summary shows the total population of these Hydro municipalities, as given by the Dominion Census and by the local Assessment returns, for the Hydro System by divisions and as a whole.

COMPARISON OF POPULATION
as shown by
DOMINION CENSUS AND LOCAL ASSESSMENT ESTIMATE

HYDRO DIVISION	Population—1911	
	Census	Assessment
Toronto-St. Catharines, excluding Toronto	140,004	134,150
Toronto Eastern, excluding Toronto.....	44,281	42,458
Toronto Suburban, excluding Toronto....	69,554	64,801
Hamilton, Guelph, Elmira.....	86,323	85,315
Niagara-St. Catharines & Toronto.....	45,339	41,681
Whole Hydro System, excluding Toronto..	385,501	368,405
Toronto.....	376,538	374,666
Whole Hydro System, including Toronto..	762,039	743,071

From this table, it is at once manifest that the Assessment estimates of population in 1911 are substantially *lower* than the Dominion Census returns, not only for the Hydro-Radial System as a whole, but for each of its five constituent divisions. As far as comparisons are available the Assessment returns for 1921 are also found to be lower than the corresponding Dominion Census returns for 1921. The population estimates, therefore, as made on the basis of assessment returns for 1920, as well as estimated increases for future periods must also be *lower*, and therefore actually more conservative than if the Census returns of 1921 had been available and used. The statement of the Sutherland Commission that "there is some danger of high estimates having been used for the present (1920) populations, and if so the expected per cent. increases would in reality be more than Mr. Arnold shows, and hence more extravagant" is thus demonstrated to be absolutely without foundation in fact.

REVENUE ESTIMATES UNJUSTLY CRITICIZED BY MAJORITY REPORT

The estimates of revenue from the proposed Hydro-Radial System are separately discussed by the Sutherland Commission from two different standpoints, the one standpoint being the possible revenue *per mile of route*, the other being the possible revenue *per capita of population* tributary to the system. To the former of

these the Sutherland Commission has devoted about one-eighth of its Majority Report. This aspect of the subject, therefore, will first be dealt with.

Following an extended discussion of conditions existent on various electric railways in the United States and after making comparisons on the basis of *revenue per route mile* of these railways, with those of the Hydro-Radial System, the Sutherland Report, with specific reference to the estimated passenger revenue of \$15,287 per route mile of the Hydro System, states:

"Comparing the foregoing expected passenger earnings over the whole Hydro-Radial System with roads in the United States actually in operation, it is to be observed that the only ones of the latter which exceed the Hydro-Radial expectations are those operating out of very large cities. For instance, the Chicago North Shore and Aurora, Elgin and Chicago earn more per mile; these are both fairly short lines and with considerable double track. The Washington & Baltimore Railway earns more, but is almost entirely double tracked. The Northern Ohio earns more only when including its large population of local city lines. Of the best earning branches of the large Detroit United System, the Detroit-Toledo earned about 50% more with its 60% double tracked 56 mile route, and the Rapid Division earned about the same with its 85% single track."

The quotation just made obviously indicates among other things, that the Sutherland Commission considers that the estimate of \$15,287 per route mile is not entitled to support from the larger passenger earnings of the roads mentioned, because these roads are "operating out of very large cities." Apart from Chicago, the only main terminal cities involved in the roads mentioned are Washington, D. C., with a population of 438,000; Baltimore with 735,000; Cleveland with 797,000; and Detroit with 1,089,000. Is not Toronto with its prospective population of 650,000, in 1925, in the same general class?

**Double Track Not
the Governing
Factor Indicated**

Another reason given in the statement just quoted to explain why the high revenues obtained *per route mile* of the railways cited should not be regarded as favorable facts supporting the Hydro-Radial estimates is embodied in the following:

The Chicago North Shore and Aurora Elgin and Chicago are fairly short lines with considerable double track.

The Washington & Baltimore Railway earns more but is almost entirely double tracked.

The Detroit Toledo earns more with its 60% of double track.

The clear implication of these statements, that the amount of double track provided in the Hydro and Arnold estimates is insufficient in relation to the expected Hydro revenue of \$15,287 per mile, is entirely unwarranted by the facts and is based on improper and misleading comparisons.

Of the Hydro passenger revenue in question of \$4,937,624 or \$15,287 per route mile, \$1,286,063—or more than one-quarter—is earned on the 16 miles of double track terminal construction in Toronto and the adjacent suburban zone, leaving only \$3,651,561 or \$11,900 per route mile as the earnings of the 307 miles of interurban line *outside* of Toronto. It is the latter figure only, of \$11,900 *per mile*, which is properly comparable with the revenue per mile of the various interurban lines of the Detroit United Railway cited by the Sutherland Commission and which, as previously explained, is earned exclusively on mileage *outside* of the City of Detroit. Thus the *revenue of \$11,900 per route mile* for the interurban mileage of the Hydro System, is strictly comparable with that of \$12,512 per route mile of the Detroit, Jackson & Chicago, and of 'about \$13,000 per route mile' for the Flint Division—two practically single track divisions of the Detroit United Railways—as cited in the Majority Report.

Other cases of single track roads, not cited by the Sutherland Commission but which further demonstrate that the Hydro estimates are safely within the capacity of single track operation are:

Name of Railway	Revenue per Route Mile
Galveston-Houston Electric Railway.....	\$12,432
Mimico Division-Toronto & York Radial Railway.....	22,818
Glengrove Division of Metropolitan-T. & Y. Radial Railway (Testimony of Mr. C. L. Wilson).....	75,209

Tributary Population, Not Double Trackage, the Real Criterion

With respect to the relative amount of double track provided by a railway, it may be pointed out that this is more properly a basis upon which to effect comparisons involving questions of cost, of construction and of adequacy of operating facilities. It bears no real relation to the actual source of passenger revenue, namely, the number of people tributary to and served by the various railways under comparison. It seems strange that in its final comparisons of revenue per route mile, the Sutherland Commission did not deal with these on the *fundamental basis of relative population served per mile of route*.

Its only attempt along this line is the casual and even then misleading reference with which we have already dealt involving the populations of the terminal cities. The reader will appreciate the fact that population tributary to a railway line is *the prime source* of all revenue. Thus the *revenue per capita* is a basic unit quantity upon which to found estimates of revenue. Other units useful for certain purposes may be derived such, for example, as the revenue *per mile of route, per mile of track*, etc., but it will be readily apparent that such derived units are not at all in the same category as the former. These derived units are useful for certain comparisons but do not *per se* constitute a criterion by which to appraise *the* basic unit of revenue per capita. The relative importance of these units evidently was not comprehended by the signers of the Majority Report, because only about one-sixty-fourth of its Report was devoted to considerations involving the basic units of revenue *per capita* while about one-eighth of the Report was given to considerations involving the derived unit of revenue *per mile*.

**Sutherland Report
States the Direct
Opposite of the Fact**

The remaining point in the statement with which we are at present dealing refers to the Northern Ohio Traction Co., respecting which the Sutherland Report states:

"The Northern Ohio earns more only when including the large population of local city lines."

This is an inexcusable misstatement of fact, and contrary to the evidence. In Exhibit 221, it is shown that the *interurban passenger revenue* of the Northern Ohio Traction Company, which, of course, excludes the revenue from local city lines, was, in 1920, \$25,699 per route mile, as contrasted with the estimated *total passenger revenues* of the Hydro System of \$15,287 per route mile. How, then, could the Sutherland Commission make the statement quoted above that the Northern Ohio earns more "only when including," when the evidence showed that it earns much more *even when excluding* the revenue from the large population carried by the local city lines? Such an incorrect statement could only result from a disregard of, or else sheer inability to grasp and assimilate, important facts of evidence.

**Further
Error and
Misunderstanding**

The full extent of the Sutherland Commission's error and misunderstanding in matters of this kind will better be appreciated from a previous reference in the Majority Report to the Northern Ohio Traction System from which the following is quoted:

"The Northern Ohio Traction Company is one of the most successful and best paying interurban electric railway systems in the United States. A comparison with it is somewhat difficult however, as about a third of its revenue is derived from miscellaneous sources such as sale of power, etc. . . . In 1919 it earned passenger revenue at the large rate of \$23,646 per track mile, which includes various local city lines; its freight revenue in the same period was very small, only \$1,435 per track mile. (From Annual Reports and Mr. Bailey's evidence). It is an example of a system with a highly remunerative suburban and urban business."

Now here, in the Northern Ohio Traction Company, there exists, as the Sutherland Commission states: "One of the most successful and best paying interurban electric railway systems in the United States," actually having in 1920—as shown above from Exhibit 221—an interurban passenger revenue of \$25,699 per route mile—a figure strongly in support of the Hydro-Radial estimates. (This \$25,699 per *route mile* from Exhibit No. 221 must not be confused with the figure of \$23,646 per *track mile* and which includes revenue from "local city lines" given in the quotation above.) The Sutherland Commission disregards this justifying data and states that the making of the comparison with this railway "is somewhat difficult." Then, with the semblance of fairness, it purports to supply such other data as are available "from Annual Reports and Mr. Bailey's evidence," but Exhibit 221 containing the tabulated data of the Northern Ohio Traction System setting forth the revenue as above stated, is entirely ignored. To have included such a citation from this Exhibit would have disclosed the fallacy of the special line of argument prepared upon this phase of the subject.

SUTHERLAND COMMISSION COMPARES PASSENGER REVENUES PER CAPITA UPON WRONG BASIS

After having disposed of its extensive discussion of revenue per route mile along the lines just set forth, the Sutherland Commission deals briefly with the estimates of passenger revenue *per capita of population served*. Two comparisons are made with the Hydro-Radial interurban revenue estimates. The first comparison is between Mr. Arnold's estimate of \$8.36 per capita for the whole Hydro-Radial System and \$8.12 per capita for the whole of the Detroit-Cleveland System. This figure of \$8.12 per capita is cited in the Majority Report from Exhibit 221, and it may here be emphasized that this \$8.12 is the only figure appearing in Exhibit 221 to which any specific reference is made by the Sutherland Commission. Inasmuch as this \$8.12 per capita is *the unit revenue of the whole Detroit-Cleveland System* it, of course, reflects the population and revenue

data of the various constituent lines comprising this system, which lines are also separately tabulated in Exhibit 221.

It has already been explained that the estimates for the Hydro-Radial System include the revenue resulting from the terminal mileage in Toronto, while the Detroit-Cleveland revenue is only on mileage outside of Cleveland and Detroit, that is, on the strictly interurban portion of the roads. Hence, the \$8.36 per capita of Mr. Arnold's estimate is not a comparable quantity with the \$8.12 per capita of the Detroit-Cleveland revenue. If these figures are brought to an equivalent basis, it is found that the revenue for the interurban mileage of the Hydro-Radial System outside of Toronto is \$7.40. This revenue of \$7.40 is the truly comparable quantity instead of \$8.36, and this \$7.40 is, of course, not higher than, but on the contrary substantially below the equivalent revenue of "only" \$8.12 on the Detroit-Cleveland System.

Furthermore, had the Hydro instead of the Arnold estimates been used as a basis, then the Sutherland Commission would, for comparison with the \$8.12 per capita of the Detroit-Cleveland revenue, have taken from Exhibit 221 the comparable Hydro figure of \$7.04,—an estimate for Hydro-radial revenue still further below the equivalent and actual revenue of \$8.12 of the Detroit-Cleveland System, and hence even more conservative than the \$7.40. Had the Sutherland Commission, however, used these truly comparable revenues per capita, then the comparison would have demonstrated exactly the opposite of what the Sutherland Commission has stated.

SUTHERLAND COMMISSION MAKES POOR COMPARISONS

Having now disposed of the first comparison referred to we shall consider the second comparison, which is between Mr. Arnold's estimate of the interurban revenue of \$7.13 per capita on the Toronto-St. Catharines Division and (a) \$4.30 per capita on the Detroit-Monroe and Toledo; (b) \$5.01 per capita on the Lake Shore Electric Railway—two roads entering the City of Toledo. This, it may be said, and as will be made clear from the subsequent discussion, is one of the most unfair comparisons which the Sutherland Commission has made and for which no justification whatever can be offered.

First of all, in making this comparison the Sutherland Commission again disregarded the non-equivalence of certain revenues because it used Mr. Arnold's figure of \$7.13 per capita which includes the Toronto terminal revenue. The Arnold figure which should have been used, and which excludes the terminal revenues, is \$5.79 or else the corresponding Hydro figure, from Exhibit 221, of \$5.69.

Again, the Sutherland Commission *for passenger revenues per capita* compares the Toronto-St. Catharines Line with the Detroit, Monroe and Toledo Division of the Detroit-United Railways, and with the Lake Shore Electric Railway, although these lines are not really comparable entities. In certain essential respects they are, in fact, quite different, and this is especially true with regard to the Detroit-Monroe and Toledo Railway.

The Detroit-Monroe and Toledo Railway is a relatively short radial division 57 miles in length of the Detroit United System, having as described in the Majority Report only a moderate rural population with Monroe an intermediate town of 11,500 population. Outside of Detroit over 85 per cent. of the population served by it is located in its secondary terminal, the City of Toledo. Its maximum rate of fare is 2 cents per mile. Obviously these conditions are not at all the equivalent of those appertaining to the Toronto-St. Catharines line which has a base rate of fare of $2\frac{3}{4}$ cents per mile and which, as the central division of a closely knit system of five separate Hydro-Radial divisions, will benefit largely from the operation of inter-divisional trains with the Hamilton, Guelph, Elmira and the Niagara-St. Catharines and Toronto Divisions as well as from the large excursion traffic to Niagara Falls.

Suitable Comparison for Hydro-Radials

The Sutherland Commission could have selected a road possessing features of extraordinary similarity with the Toronto-St. Catharines Division by selecting that portion of the Northern Ohio Traction System which operates between Cleveland and Canton. Cleveland and Toronto are primary terminals of quite similar type. From the map it will be observed that Akron and Hamilton are intermediate large cities similar in character, while Canton and St. Catharines are corresponding secondary terminals. The Niagara-St. Catharines and Toronto division, considered as a connecting feeder line, at St. Catharines, has its counterpart in that portion of the Northern Ohio System south of Canton, while the Hamilton, Guelph, Elmira division, connecting with the Hydro system at Hamilton, finds a parallel in various branch lines of the Northern Ohio system at and near Akron. Had the comparison been made between these two systems—the Toronto and St. Catharines with the Cleveland and Canton—possessing such strikingly similar features, it would have been found that the revenue per capita on the interurban mileage of the Toronto-St. Catharines Line of \$5.69, compared closely and conservatively with the corresponding revenue of \$5.88 on the

Cleveland-Canton Line : and, moreover, all that the Sutherland Commission needed to do was to have selected these two comparable railways and then to have taken the figures for the comparison which had already been made in Exhibit No. 221 which was in its possession.

Instead, however, of so doing, the Sutherland Commission selected for comparison with the Toronto-St. Catharines Division, the Detroit, Monroe and Toledo and the Lake Shore Electric Railways, and, as will be seen, did so in a most unfair manner. The Majority Report of the Sutherland Commission on page 42 states :

"Compare the best division of the Hydro, viz., Toronto-St. Catharines, 72 miles long, which Mr. Arnold expects to earn in 1925 an interurban revenue at the rate of \$7.13 per capita, exclusive of Toronto, with:—

"(1) The best Division of the Detroit United, viz., Detroit-Toledo, 52 miles; this earned an interurban revenue in 1920 at the rate of \$4.30 per capita, exclusive of Detroit, and

"(2) The Lake Shore Electric, Cleveland to Toledo (total 171 miles); this earned an interurban revenue in 1920 at the rate of \$5.01 per capita, exclusive of Cleveland. (These figures from Mr. Rifenberck's statistics, Exhibit 228)."

NOTE:—*The distance of 171 miles given in item (2) above as the distance from Cleveland to Toledo is evidently used inadvertently by the Sutherland Commission. This distance is that from Cleveland to Detroit, and includes the mileage of the Detroit, Monroe & Toledo. The mileage of the Lake Shore Electric Railway, Cleveland to Toledo, is only 120 miles.*

What would be thought of the Hydro-Electric Power Commission's Hydro Radial estimates if in estimating the per capita revenue of the Toronto-St. Catharines Division, the population of the City of Hamilton of some 115,000 had been included twice? In other words, suppose that for the portion of the Toronto-St. Catharines road between Toronto and Hamilton the population of Hamilton was included at 115,000 and then for the portion of the same Toronto-St. Catharines road between Hamilton and St. Catharines, the population of Hamilton was again included at 115,000? It would immediately be contended that this was not only an absurd thing to do, but grossly unfair if deductions made upon such a basis were to be used to discredit other data derived by legitimate processes.

The Sutherland Commission sought a comparison between the Hydro Toronto-St. Catharines division and other interurban railways. They selected lines in the territory between Detroit and Cleveland. This territory, regarded as a whole, is reasonably comparable. The through interurban lines serving this territory

should be regarded as deriving revenue from the total population tributary to these lines, and these lines in the present comparison are from Toronto *through Hamilton* to St. Catherines, on the one hand and from Detroit *through Toledo* to Cleveland on the other.

**SUTHERLAND COMMISSION EMPLOYS POPULATION DATA IMPROPERLY
(Effect of Population of the City of Toledo Virtually Doubled.)**

**\$4.30 and \$5.01
Per Capita are
Improperly Derived**

In using the figures of \$4.30 per capita and \$5.01 per capita, the Sutherland Commission took advantage *twice* of the population of 243,164 for the City of Toledo. Had the Sutherland Commission adopted either of the two methods usually employed where a community is served by more than one railway, namely, of dividing in this particular case the Toledo population between the Detroit, Munroe and Toledo and the Lake Shore Electric, or of taking the *revenues of both* these railways and dividing them *by the total population served*, then the Sutherland Commission would have obtained the following per capita figures :

**\$4.30 Should be
\$7.70 and \$5.01
Should be \$7.45**

If say, one half of Toledo's population was considered tributary to each of the lines, the \$4.30 would have become \$7.70 as compared with the \$7.13 estimated by Mr. Arnold for the Toronto-St. Catherines Division, and the \$5.01 of the Sutherland Commission for the Lake Shore Electric Railway would have become \$7.45. If, however, the usual and more rational method of estimating be adopted,—the revenue of both railways being added and the whole population served, including Toledo but once, being used—then the revenue per capita of the Detroit, Munroe and Toledo and Lake Shore Electric together becomes \$7.55 as contrasted with Mr. Arnold's total revenue of \$7.13.

It might be further emphasized that the comparison that should be made is really not with Mr. Arnold's figure of \$7.13, but with this figure reduced to its comparable basis of \$5.79. However, we are not now concerned with these details. It is sufficient for present purposes to show the wholly unfair and unjustifiable means employed by the Sutherland Commission with respect to the per capita rates of \$4.30 and \$5.01 and without which it would again have been unable to offer the superficial and plausible argument presented to the public against the per capita revenue of the Hydro-Radial experts.

Had the Sutherland Commission made the proper comparisons and made them upon the true bases above presented, and the need

for which in the case of the terminal revenues was clearly brought to its attention in the course of the Hearings, then the Sutherland Commission certainly could not even plausibly have stated, as it did in its Report, that the Hydro-Radials expected "passenger revenues per capita, especially on the interurban portions, which are in excess of those of some of the best passenger earning roads operating out of cities like Detroit and Cleveland."

SUTHERLAND COMMISSION REPORT RECOMMENDS "ALTERNATIVE SCHEME" PURELY LOCAL IN CHARACTER

It has already been emphasized that the Hydro-Electric Power Commission has dealt with the Hydro-Radial project from a *province-wide* and not from a mere *local* standpoint. The Commission recognized of course, that Toronto and vicinity, by virtue of its population and geographical position, is the most important individual factor to be considered. At the same time the Commission's aim has been to accord to this favored district only such advantage as it would be entitled to in the carrying out of a municipal radial policy essentially province-wide in its conception and character. This is not the view entertained by the Sutherland Commission.

The Hydro-Electric Power Commission's recommendation for radials involved the utilization of rapid transit entrances into Toronto.

The Sutherland Commission reported that:

"In examining the project from all sides, however, and in viewing the evidence of the various witnesses, the estimates and reports, we are driven to the conclusion that the most obvious alternative scheme of a constructive nature lies in and about the City of Toronto. The whole Hydro-Radial Project centres about this city which is the largest partner in the proposed co-operative scheme of the municipalities."

And in support of the "Alternative Scheme" which the Sutherland Commission recommends, the report states:

"It became apparent too that inasmuch as the Toronto situation naturally separated itself from the rest of the project out in the province, it should be treated as a purely local problem, and worked out with the view that the City of Toronto should undertake the construction and operation as a municipal enterprise co-ordinated with the other undertakings of similar nature now in hand.

This alternative suggestion crystallizes into a purely radial scheme based on Toronto."

Sutherland Commission Recommends Improvements for Toronto Street Railway

And the Sutherland Commissioners add:

"These three lines being thrown into the scale are, in our opinion, very instrumental in not only emphasizing the desirability of a purely Toronto radial project but in making possible the adoption of those portions of the larger Hydro-Radial project which lie in and around Toronto. All of these in combination, three portions of the Hydro-Radial lines within or close to the City and the three other lines about to be acquired, together can probably be merged into a practical and economical radial project to be operated in conjunction with the City of Toronto Street Railway System now also about to be acquired. We consequently suggest this as an Alternative Scheme."

We thus find that rapid transit radial entrances, the cost of the construction of which the Hydro-Electric Power Commission recommended not only the City of Toronto but also the other interested municipalities to assume, are disassociated by the Sutherland Commission from the scheme proposed by the Hydro-Electric Power Commission and in turn are recommended as an integral part of the Toronto Transportation Commission's operations, in violation of the general province-wide radial railway policy of the municipalities.

The "Alternative Scheme" Unsupported by Necessary Estimates, etc.

It will be seen therefore, that the Sutherland Commission not only rejects the Hydro-Electric Power Commission's radial project, but offers an "alternative scheme" of its own. That this alternative scheme is devised essentially for one central community is evident from the quotations from the Commission's Majority Report just given. In support of this scheme the Sutherland Commission calls for no special evidence. Its "alternative scheme" was not, like other schemes, subjected to criticism at the time of the Hearings, no testimony of any experts—operating or otherwise—was submitted, no estimates of cost for its construction were considered, there is no setting forth in any shape, manner or form of the possible revenues that might be derived nor of the expenses which would be incurred in connection with its operation. Although it is known by all who have given the matter intelligent consideration, that if the cost of a proposed high grade radial interurban electric railroad be cheapened beyond a certain point, the project had better not be considered at all, and although it is known that it would be inviting economic failure to construct a railway according to standards which would never allow it to be operated in a manner to command business, yet, the Sutherland

Commission, in spite of this, proposed a railway scheme of this inferior class. The Hydro-Electric Power Commission advanced its Hydro-Radial project after careful and detailed examination by its experts of all essential factors and these factors were set forth in form to be examined and appraised in their various relationships to the project submitted. Had the Sutherland Commission even shown what would be the cost of its proposed cheaper lines and how the cheapening would be accomplished, there would at least have been some basis upon which to begin to appraise the character of the Sutherland Commission's "Alternative Scheme" railway.

CONCLUSION

In dealing with public problems such as the Hydro-Electric Power Commission has dealt with, the Commission has regarded that adequate knowledge of any problem in hand, coupled with the zeal and enterprise for its successful solution, have really been more important factors than the mere acquirement of Capital. Once the essential factors are determined to be sound and favorable, they will irresistibly carry Capital with them. The Hydro-Electric Power Commission investigated this subject of Hydro-Radials with a staff of expert investigators—and these cannot justly be discredited by the slighting personal remarks contained in the Majority Report of the Sutherland Commission. The Hydro-Electric Power Commission's investigators have proved themselves competent to appraise essential data.

The Hydro-Electric Power Commission asserted its own confidence in Hydro-Radials before inviting the confidence of others. The Commission's confidence was in the particular project it has recommended. It called for high-speed transportation between certain terminals traversing certain territory. The railway itself was to be of the highest standard in order to meet the demands which were to be placed upon it. The whole proposition was unique and of exceptional business promise. It is of no real pertinence to compare such a hydro-radial project with other railways which should not have been built. A rapid-transit electric road through a populous and prosperous territory and adjacent to thriving industries, is in a different category from a steam railway trying to tap the Arctic zone.

The very fact that hydro-electrical energy for driving the railway would be available at low cost, is of itself a factor of great significance and one which, had it been possessed by many electric

roads in the United States, would have permitted them to operate in a manner they were unable to do with expensive steam-generated electric power. There is a wide difference between a cheaply constructed electric railway system, over capitalized, using expensive power and operating on an ordinary street railway basis; and a strictly modern, high-class, rapid-transit electric railway, operating with cheap power. The latter is *the* Hydro-Radial proposition submitted for the acceptance of the public of Ontario.

Now, instead of appraising this proposition upon its merits, the Sutherland Commission has treated it in certain important respects as though it were one of the cheaply constructed electric railway systems, over-capitalized, operating more or less on the highways and streets, and depending upon expensive power. This statement is warranted because even though clearly recognizing that the Hydro-Radial project was unique, the Sutherland Commission, nevertheless, employed data relating to cost, operation, revenue and other features, of inferior electric railways as the criterion by which to judge the merits of the Hydro-Electric Power Commission's proposed radials. The STATEMENT here presented will, it is believed, sufficiently demonstrate the unjust character of the conclusions submitted by the Sutherland Commission in its Majority Report. Moreover, it should be fully recognized, not only that the data of revenues and other factors germane to the subject of Hydro-Radials have been incorrectly and unjustly applied, but also that if these data had been rightly applied by the Sutherland Commission there would have resulted a clear and outstanding demonstration of the soundness of the estimates of the Hydro-Electric Power Commission's experts; in other words, the Hydro-Radial project could not, even with the semblance of justification, have been discredited, but on the contrary would have had to be confirmed by sheer weight of evidence on record before the Sutherland Commission.

It is believed that the Hydro-Radial project may be advanced with caution and yet with great benefit to the Province as a whole. Later, after the success of the first Hydro-Radial installation of, say, 325 miles is assured, these lines may be extended and other new lines may be constructed as circumstances warrant. The whole radial scheme will thus gradually acquire a province-wide character, just as has been the case with the transmission and distribution of Hydro-Electric power, which has developed from its limited initial installation to its present province-wide proportions. It remains, therefore, for the people of the Province of Ontario to decide whether they will be guided by the conclu-

sions of the Majority Report of the Sutherland Commission or by the representations made by the Hydro-Electric Power Commission based as they are upon the extensive and detailed research of experts in whose judgment the Commission has full confidence—a confidence, in fact, which has been increased rather than diminished by the criticisms which have been directed against them.

It is confidently believed that the Hydro-Radial Project which is recommended by the Hydro-Electric Power Commission of Ontario will assuredly be of very great social, commercial and financial benefit not only to the municipalities directly concerned, but also to the Province and, indeed, to the Dominion as a whole. It remains, therefore, for the Public, in whose general interest the Hydro-Radial Railway Project has been conceived, to decide whether or not this Hydro-Radial policy of the Municipalities shall be consummated.

EXHIBIT 221 HYDRO-RADIAL RAILWAYS COMPARISONS JUSTIFYING VARIOUS ESTIMATES

Submitted to

RADIAL RAILWAY COMMISSION INTERURBAN PASSENGER SERVICE

SYSTEM	Year	Interurban Route Miles	Population Served	Interurban Revenue	Population Per Mile	Revenue Per Mile	Revenue Per Cap.
WHOLE HYDRO SYSTEM.....	1925	271.	422,502	2,972,815	1,559	10,970	7.04
Detroit Cleveland.....	1920	593.43	1,205,806	9,794,173	2,032	16,504	8.12
Northern Ohio Traction.....	1920	131.23	465,721	3,372,446	3,549	25,699	7.24
TORONTO-ST. CATHERINES, HAMILTON -WATERLOO & GUELPH, NIAG- ARA, ST. CATHERINES AND TORONTO	1925	181.4	357,143	2,548,474	1,973	14,049	6.89
Northern Ohio Traction.....	1920	131.23	405,721	3,372,446	3,549	25,699	7.24
Toronto, St. CATHERINES-Whole Line	1925	64.	197,275	1,123,451	3,082	17,554	5.69
Northern Ohio Traction.....	1920	131.23	465,721	3,372,446	3,549	25,699	7.24
Northern Ohio Traction, Cleveland to Canton only.....	1920	52.	345,153	2,027,963	6,638	38,999	5.88
Lake Shore Electric—Cleveland Div- ision.....	1920	60.	87,715	926,760	1,462	15,446	10.57
TORONTO, ST. CATHERINES—Toronto to Hamilton only.....	1925	40.	153,315	834,721	3,833	20,868	5.45
N. O. T. Cleveland to Akron.....	1920	28.	240,082	1,329,039	8,574	47,466	5.54
TORONTO EASTERN.....	1925	37.79	31,208	328,000	828	8,680	10.51
Detroit Jackson & Chicago.....	1920	95.1	112,120	1,170,359	1,179	12,307	10.44
HAMILTON, GUELPH, ELMIRA.....	1925	66.7	97,424	762,447	1,461	11,430	7.83
Northern Ohio, South of Akron only	1920	103.	225,638	2,043,407	2,190	19,839	9.06
Niagara, St Catherines & Toronto.	1920	50.7	52,834	431,547	1,042	8,512	8.16

NOTE : This Table is from Page 196 of Reports of Commission Appointed to Inquire Into Hydro-Electric
Railways Containing Majority and Minority Reports and Appendices.

